

CLAIMS

1. A device to prevent cartridge incorrect insertion comprising:

a claw that allows an information recording cartridge to be inserted into and taken out of a cartridge storage space, said information recording cartridge having a housing of substantially rectangular flat shape with a predetermined thickness in which a recessed part or a through hole disposed at the position other than the central position and a recording medium stored within said housing, protrudes into said cartridge storage space so as to go in and out freely and enters into said recessed part or through hole of said information recording cartridge only in the case where said information recording cartridge is inserted from a predetermined direction into said cartridge storage space; and

a stopper working with said claw that does not protrude into said cartridge storage space and allows said information recording cartridge to be inserted and stored in said cartridge storage space when said claw enters into said recessed part or through hole, and protrudes into said cartridge storage space and

prevents said information recording cartridge from being inserted and stored in said cartridge storage space when said claw does not enter into said recessed part or through hole.

2. A device to prevent cartridge incorrect insertion comprising:

a claw that allows an information recording cartridge to be inserted into and taken out of a cartridge storage space, said information recording cartridge having a housing of substantially rectangular flat shape with a predetermined thickness in which a recessed part or a through hole disposed at the position other than the central position and a recording medium stored within said housing, protrudes into said cartridge storage space so as to go in and out freely and enters into said recessed part or through hole of said information recording cartridge only in the case where said information recording cartridge is inserted from a predetermined direction into said cartridge storage space;

a claw position detecting part that detects whether or not said claw enters into said recessed part or through hole and outputs

a detection result; and

a determining part that determines whether or not the direction of inserting said information recording cartridge is correct based on said detection result of said claw position detecting part and outputs a determination result.

3. The device to prevent cartridge incorrect insertion, as claimed in Claim 1, wherein said claw and said stopper are jointed with a joint part that can rock on a predetermined shaft as a fulcrum.

4. The device to prevent cartridge incorrect insertion, as claimed in Claim 1, comprising a plurality of said claws and/or said stoppers.

5. The device to prevent cartridge incorrect insertion, as claimed in Claim 1, wherein said information recording cartridge stores a magnetic tape reel therein and said recessed part or through hole is a recessed part or through hole for inserting a reel base of a cartridge control device that engages with

said magnetic tape reel thereinto.

6. A cartridge auto-changer comprising:
a plurality of cartridge storage parts,
each of which includes said cartridge storage
space for mounting an information recording
cartridge with being inserted from its backside
thereinto, said information recording cartridge
having a housing of substantially rectangular
flat shape with a predetermined thickness in
which a recessed part or a through hole disposed
at the position other than the central position
and a recording medium stored within said
housing;

a moving mechanism that moves said
cartridge storage part selected from said
plurality of cartridge storage parts to a first
position at which the user inserts or take out
said information recording cartridge and moves
said cartridge storage part selected from said
plurality of cartridge storage parts to a second
position opposed to a cartridge inserting port of
a cartridge control device for recording and/or
reproducing information on/from said recording
medium; and

a device to prevent cartridge incorrect

insertion as claimed in Claim 1 disposed at least one position of said first position, said second position and inside of each cartridge storage part, wherein said claw enters into said recessed part or through hole of said information recording cartridge only in the case where said information recording cartridge is inserted from its backside into said cartridge storage space.

7. A cartridge automatic control device with an auto-changer comprising:

said cartridge auto-changer as claimed in Claim 6; and

a cartridge control device having a second cartridge storage part for mounting said information recording cartridge with being inserted from its foreside, a second device to prevent cartridge incorrect insertion for detecting that said information recording cartridge has inserted from the incorrect direction or for preventing said information recording cartridge from being inserted from the incorrect direction by use of a notch for preventing incorrect insertion provided at one corner on right or left side in the foreside of said housing of said information recording

cartridge, and a control part for recording and/or reproducing information on/from said recording medium.

8. A device to prevent cartridge incorrect insertion comprising:

a management information reading part wherein, in the case where an information recording cartridge having a housing of substantially rectangular flat shape with a predetermined thickness that includes a notch for preventing incorrect insertion provided at one corner on right or left side in the foreside of said housing, a recording medium stored within said housing, a memory module that records management information therein, and an antenna for radio communication of said memory module disposed at a predetermined position with a displacement in the right or left direction in the rearward of said housing is inserted from its backside into a cartridge storage part, said management information reading part is disposed at the position so that it can perform radio communication with said memory module on a path through which said antenna for radio communication of said memory module passes or

in the state in which said information recording cartridge is stored from its backside in said cartridge storage part; and

a determining part that determines whether the direction of inserting said information recording cartridge is correct or not based on whether or not said management information reading part reads management information of said recording medium and outputs a determination result.

9. A cartridge auto-changer comprising:

a plurality of cartridge storage parts for mounting an information recording cartridge with being inserted from its backside thereinto, said information recording cartridge having a housing of substantially rectangular flat shape with a predetermined thickness that includes a notch for preventing incorrect insertion provided at one corner on right or left side in the foreside of said housing, a recording medium stored within said housing, a memory module that records management information therein, and an antenna for radio communication of said memory module disposed at a predetermined position with a displacement in the right or left direction in

the rearward of said housing;

a moving mechanism that moves said cartridge storage part selected from said plurality of cartridge storage parts to a first position at which the user inserts or take out said information recording cartridge and moves said cartridge storage part selected from said plurality of cartridge storage parts to a second position opposed to a cartridge inserting port of a cartridge control device for recording and/or reproducing information on/from said recording medium; and

a device to prevent cartridge incorrect insertion as claimed in Claim 8 disposed at least one position of said first position, said second position and inside of each cartridge storage part.

10. A cartridge automatic control device with an auto-changer comprising:

a cartridge auto-changer as claimed in Claim 9; and

a cartridge control device having a second cartridge storage part for mounting said information recording cartridge with being inserted from its foreside thereinto, a second

device to prevent cartridge incorrect insertion for determining whether or not said information recording cartridge has been inserted from the correct direction or for preventing said information recording cartridge from being inserted from the incorrect direction by use of a notch for preventing incorrect insertion, and a control part for recording and/or reproducing information on/from said recording medium.

11. The cartridge automatic control device with an auto-changer, as claimed in Claim 10, further comprising a lid that is closed automatically in the state in which said information recording cartridge is stored in a cartridge inserting port, wherein

in the case where said determining part determines that the direction of inserting said information recording cartridge is incorrect, said cartridge automatic control device with an auto-changer does not close said lid.

12. The cartridge automatic control device with an auto-changer, as claimed in Claim 10, further comprising a display part, wherein

in the case where said determining part determines that the direction of inserting said information recording cartridge is incorrect, said display part displays that the direction of inserting said information recording cartridge is incorrect.